

## CLAIMS

- 5           1. A method for treating a subject with multiple sclerosis, comprising  
          administering to the subject a therapeutically effective amount of an IL-2  
          receptor antagonist in the absence of treatment with beta interferon,  
          wherein the subject has failed to respond to previous treatment with beta  
          interferon,  
10           thereby ameliorating a sign or symptom of multiple sclerosis and treating the  
          subject.
2. The method of claim 1, wherein the IL-2 receptor antagonist is  
          administered intravenously.
- 15           3. The method of claim 2, wherein the IL-2 antagonist comprises an  
          antibody that specifically binds the IL-21 receptor.
4. The method of claim 3, wherein the antibody is a humanized monoclonal  
20           antibody.
5. The method of claim 4, wherein the antibody specifically binds p55.
6. The method of claim 1, wherein the antibody is daclizumab.
- 25           7. The method of claim 4, wherein the antibody is administered at a dose of  
          about 1 to about 3 milligrams per kilogram intravenously.
8. The method of claim 4, wherein the antibody is administered at a dose of  
30           about 1 per kilogram to about 2 milligrams per kilogram intravenously.
9. The method of claim 6, wherein the antibody is administered biweekly.

10. The method of claim 1, wherein treatment of the subject results in a decreased number of contrast enhancing-lesions as evaluated by Magnetic Resonance Imaging.

5           11. The method of claim 1, wherein the treatment with beta interferon comprises treatment with interferon-beta 1a.

12. The method of claim 1, wherein the treatment with beta interferon comprises treatment with interferon- beta 1b.

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13. The method of claim 1, wherein the subject has relapsing-remitting multiple sclerosis.

14. The method of claim 1, wherein the subject has progressive multiple  
15 sclerosis.

15. A method for treating a subject with multiple sclerosis, comprising administering to the subject intravenously a therapeutically effective amount of a humanized monoclonal antibody that specifically binds the interleukin-2 receptor,  
20 and wherein the humanized monoclonal antibody is administered at least biweekly for a period of at least two months, thereby treating the subject.

16. The method of claim 15, wherein the subject is not treated with interferon- $\beta$ .  
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17. The method of claim 15, wherein the antibody is administered at a dose of about 1 to about 3 milligrams per kilogram.

18. The method of claim 15, wherein the antibody is administered at a dose  
30 of about 1 per kilogram to about 2 milligrams per kilogram.

19. The method of claim 15, wherein the humanized monoclonal antibody specifically binds p55.

20. The method of claim 15, wherein the subject has relapsing-remitting  
5 multiple sclerosis.

21. The method of claim 15, wherein the antibody is daclizumab.

22. A method for identifying a subject responsive to treatment with an IL-2  
10 receptor antagonist, comprising selecting a subject that has multiple sclerosis that has not responded to treatment with interferon-beta, thereby identifying the subject responsive to treatment with the IL-2 receptor antagonist.

23. The method of claim 22, wherein the subject has relapsing-remitting  
15 multiple sclerosis.

24. The method of claim 22, wherein the IL-2 receptor antagonist comprises an antibody that specifically binds p55.

20 25. The method of claim 22, wherein antibody is a monoclonal antibody.

26. The method of claim 22, wherein the monoclonal antibody is a humanized monoclonal antibody.

25 27. The method of claim 22, wherein the interferon-beta comprises interferon-beta 1a.

28. The method of claim 22, wherein the interferon comprises interferon-beta 1b.  
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29. A method for treating a subject with multiple sclerosis, comprising

selecting a subject who has been treated with interferon-beta and failed to respond to the interferon-beta treatment;

administering to the subject intravenously a therapeutically effective amount of a humanized monoclonal antibody that specifically binds the interleukin-2

5 receptor, wherein the subject is not treated with interferon- $\beta$ ,  
thereby treating the subject.

30. The method of claim 29, wherein the humanized monoclonal antibody is administered at least biweekly for a period of at least two months.

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31. The method of claim 29, wherein the antibody is daclizumab.